

that the risk-benefit ratio is not favorable to skin testing or beginning immunotherapy injections during pregnancy. Continuing immunotherapy, when a stable safe dosage regimen has been established, is generally accepted during pregnancy.

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Recovery of Radiolabeled-Insulin From Parenteral Nutrient Solutions

TO THE EDITOR: With the availability of essential amino acids for parenteral use, an increasing number of patients are receiving total parenteral nutrition. Frequently, these patients need exogenous insulin. This can be given either by a bolus injection or the insulin can be added to the parenteral nutrition fluid and given by infusion. Adsorption of insulin to solid surfaces was first described in 1951.¹ Only a few studies have been done examining the availability of insulin from parenteral nutrient solutions (PNS).^{2,3} We did not find published studies examining the recovery of insulin from PNS with use of a silastic (Hickman-Evermed) catheter. So we decided to examine this under frequently encountered clinical conditions.

Methods

Twenty units of regular insulin were added to 1,000 ml of PNS (500 ml D5OW + 500 ml 8.5% amino acid solution—Travenol). Five microcuries of insulin I 125 were added to the bottle. The bottle was shaken and five 1-ml aliquots were removed directly from the bottle. Polyvinyl tubing was connected to the bottle and the solution was run at a rate of 50 ml per hour; 1-ml aliquots of the first 100 ml of effluent were collected at the end of the tubing. These aliquots and the aliquots obtained directly from the PNS bottle were counted in a gamma counter for one minute.

Radioactivity of the consecutive 1-ml aliquots collected at the end of the tubing was compared with the radioactivity of

the aliquots obtained directly from the bottle (taken as 100%). Percent recovery was calculated for each consecutive milliliter and plotted on a graph by computer. Similar experiments were done with 5% dextrose in water (with polyvinyl chloride tubing) and a silastic catheter (with PNS).

Results

Recovery of the radioactivity with PNS averaged 78% by the 20th ml, gradually rising thereafter. Recovery was slightly higher with PNS than with 5% dextrose in water (Figure 1). Recovery with polyvinyl chloride tubing and silastic catheter was similar.

With common infusion rates (50 to 100 ml per hour), more than 75% recovery with a virtual plateau can be achieved in less than 20 minutes. A 50-ml washout of the infusion system to increase the recovery of insulin at the beginning of the infusion has been recommended.⁴ Recovery of more than 75% of insulin within a short period of starting the infusion makes it unlikely that washout of the infusion system is critical. The expense of such a washout may be significant with these costly solutions. The use of an in-line filter significantly reduces early recovery, but it plateaus by the 20th ml as well. Absolute recovery was not measured in this study; however, the relative consistency of insulin delivery remains an important observation.*

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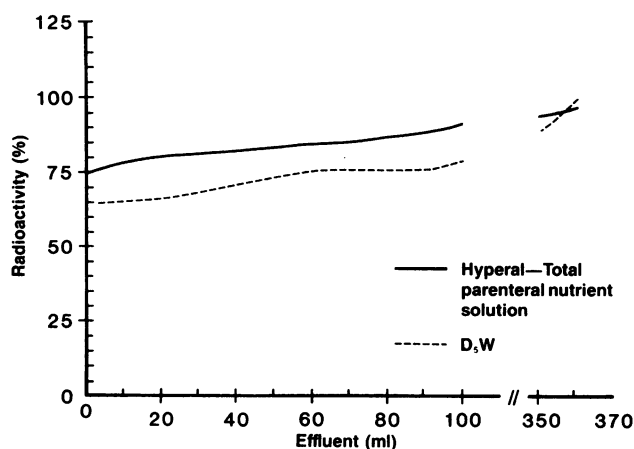


Figure 1.—Comparison of recovery of radiolabeled insulin from D5W versus parenteral nutrient solution.

Premarital Screening for Syphilis

TO THE EDITOR: I wish that I could agree with Dr Haskell's recent analysis showing that premarital screening of women for syphilis is not cost-effective.¹ If Dr Haskell's arguments are correct, then we could eliminate premarital blood testing for women entirely. The other test required premaritally—a rubella titre—has been shown to be highly insensitive (many false-negatives).² Furthermore, since the new rubella vaccine is highly effective^{3,4} and now considered safe even for pregnant women,⁴ then all we need in regard to rubella is certification of vaccination and we can be sure that our purpose in reducing chances of congenital rubella has been adequately met.

However, one of the assumptions inherent in Dr Haskell's article is a \$20 office visit for each woman at a cost totaling six million dollars per annum. Since the VDRL is a screening test, a physician examination is quite simply unnecessary (and in fact is not required for men). What if the law were changed

so that the cost of VDRL screening for women was a \$7 laboratory charge plus a \$5 charge for blood drawing and handling? This would reduce costs by \$15 per visit with no clinical loss whatsoever. Total savings would be \$4.5 million, or 53% of the total assumed costs of yearly screening. Cost per case of syphilis identified would then be reduced to about \$113,700 in round numbers. This is not an outrageous amount and using Dr Haskell's worst case method the screening would then appear to be cost-effective.

I would conclude, therefore, that rather than discontinue VDRL premarital screening, we should eliminate physician visits and fees which have no place in the screening procedure. I would still eliminate rubella screening and instead substitute documentation of vaccination. We could save even more money if costs for the screening were fixed. This could be accomplished by regionalizing laboratories performing screening on a competitive bid basis and either fixing clinic blood-drawing fees or similarly regionalizing sites where blood specimens for screening were to be drawn.

This seems to me to be a classical case of one potential pitfall in cost-benefit analyses—much depends on the assumptions inherent in the calculation process.

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Break Dancer's Fracture of the Fifth Metatarsal

TO THE EDITOR: Recently, break dancing has become a very popular form of entertainment in the United States. Break dancing involves expressive gestures of the head, arms and body while using steps designed to produce a fluid appearance of movement, periodically punctuated by back spins on the arched upper thoracic spine. As with any new activity, it is not surprising that previously uncommon injuries should become manifested with increased frequency. I would like to report one such break dancing-related injury.

A 17-year-old young man in good health presented to the emergency room complaining of the sudden onset of sharp pain on the lateral aspect of his right foot, which was coincident with the premature planting of this foot while performing a lateral slide step. (This is a common maneuver in break dancing, in which the undersurface of the shoe is kept just above and parallel to the floor or street while moving laterally, after which weight is gradually shifted to that foot.) On physical examination minimal swelling and moderate point tenderness were noted just proximal to the fifth metatarsal-phalangeal joint along the lateral aspect of the right foot. Ankle and foot radiographs showed a normal ankle and a spiral fracture of the distal midshaft of the fifth metatarsal.

Four types of fractures of the fifth metatarsal occur with

any frequency. These include stress fractures in athletes,¹ and tuberosity and Jones's fractures² related to the tendinous insertion of the peroneus brevis—all three of which occur at the proximal end of the metatarsal. Fractures of the midshaft and neck are usually transverse and due to heavy objects falling on the foot.¹

Given the position and direction of motion during the lateral slide step during break dancing, the spiral midshaft fracture suffered by this patient likely resulted from the combination of a rotational force about the long axis of the foot plus a medial load on the distal half of the metatarsal. This is similar to the direction of force in an inversion sprain of the ankle, but with a more distal focus of maximal force.

With the increasing popularity of break dancing among American youths, certain previously uncommon injuries can be expected to be seen with greater frequency, including fractures in unusual locations. Physicians should have a heightened level of suspicion when evaluating patients injured during break dancing until all associated injuries are known.

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Methods of Determining Blood Pressure

TO THE EDITOR: I read with interest the article on auscultatory blood pressure measurement by Drs Londe and Klitzner¹ in the August issue.

Although I have noticed few other people who use the technique that I use in auscultating brachial blood pressures, I personally use the bell of the stethoscope as recommended by DeGowin and DeGowin in their text *Bedside Diagnostic Examination*.² On page 387 of the third edition, their recommendation is "press the bell of the stethoscope lightly over the brachial artery and note the pressure read at which sounds first become audible . . ." I assume that the DeGowins presumed the findings of the study by Londe and Klitzner and therefore recommended this technique as the preferable way of eliciting blood pressures. I do not know why most people use the diaphragm of the stethoscope and would be interested in the authors' feelings about the DeGowins' method of determining blood pressures. Perhaps comparing assessment of blood pressure with a bell applied lightly to the brachial artery versus a diaphragm could be the subject of a study.

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Dr Londe Replies

TO THE EDITOR: Dr Meth raises an important question.

I have been using the bell side of the stethoscope because I was using a bell stethoscope when I began my studies in